



Decompression chambers
Hyperbaric research
Dry deck shelters

Hyperbaric Analyser

The Hyperbaric Analyser is a digitally calibrated, portable instrument, that can measure CO₂ and O₂ levels under hyperbaric conditions up to 6 bar absolute. A dual wavelength infra-red cell is used for quantifying CO₂ levels and the effects of pressure broadening are automatically compensated by the instrument. Oxygen levels are determined by an integral long-life hyperbaric electro-chemical cell.

Benefits

- No need to compensate for pressure broadening
- Repeatable and accurate CO₂/O₂ monitoring under hyperbaric conditions
- Approved by the US Navy

Features

- Ambient pressure measurement
- Automatic data acquisition capability
- CO₂: 0-25,000ppm SEV
- O₂: 0-25% VOL (Pressure compensated)
- Fully compensated up to 6 bar absolute

Applications

- Decompression chambers
- Submarines
- Offshore exploration
- Hyperbaric research projects
- Dry deck shelters



Technical Specifications

Hyperbaric Analyser

POWER SUPPLY

Battery type	2.8 AH Ni-Cad battery packs
Battery life	8 hours from full charge
Battery lifetime	Minimum of 600 charge/ discharge cycles
Battery charger	110V or 240V AC operation. Mains on & charge indicators. Integral mains power lead.
Charge time	Approximately 16 hours
Memory back-up battery	40mA Ni-Cad (not user changeable)

GAS MEASUREMENT

CO ₂ range	0-25,000ppm SEV Note: Other units of measurement may be available on request	
O ₂ range	0-25% Vol (pressure compensated) Note: Other units of measurement may be available on request	
Ambient pressure range	1-6 bar Absolute	
Typical accuracy	CO ₂ ±10% of reading	O ₂ ±5% of reading
CO ₂ measuring principle	By infra-red absorption High pressure IR source 10 bar sealed pyroelectric sensors	
O ₂ measuring principle	Acid electrolyte type, unaffected by CO ₂ or CO. Pressure compensated.	
Anticipated O ₂ cell lifetime	900,000 % hours (5 years @ 21%)	
Response time	Initial warm up - 60 seconds	
Cross gas effects	None known in a normal operating environment.	
Drift compensation	Corrected by ratiometric comparison with reference	
Pressure compensation	All readings compensated in real time	

FACILITIES

Real time clock and calendar
Reading storage capacity with ID code, time and date
User re-calibration facility
Pump on/ off indication
Temperature reading facility
User definable visual and audible alarm
Peak CO ₂ reading facility

PUMP

Flow	350cc/ minute average
Maximum vacuum	400mbar



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Technical Specifications

Hyperbaric Analyser, cont'd.

PRESSURE MEASUREMENT

10 bar absolute silicon bridge transducer

PHYSICAL

Weight	Approximately 2kg
Size	H 225mm, W220mm, D51mm
Case material	ABS - Blue
Keypad	Weather proof numeric keypad Dome "tactile keys"
Display	<ul style="list-style-type: none">• LCD graphic (120 x 32 pixels)• Backlight
Ports	Inlet = filter inlet assembly Outlet = to suit approximately 5mm ID tubing Case vent = plain 4.1mm hole (moisture filter protected) Electrical = 7 pin lemo connector (communications & charge)
Filters	Inlet = 0.2µm PTFE hydrophobic filter (user changeable) Case vent = 0.2µm PTFE hydrophobic filter

Important Note

The information in this document is correct at the time of generation. We do, however, reserve the right to change the specification without prior notice as a result of continuing development.

Related Products

DiveAir 2



The DIVEAIR2 is used to measure composition of compressed air used to fill gas cylinders for underwater operations. It can also measure possible contaminations due to Carbon Monoxide and VOCs. Offering real time feedback on air quality, this instrument removes the need to send samples for laboratory analysis.



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